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SYSTEM MANUAL
Computer Aided Dispatch System for the Police Departments of Oak Park, River Forest, and Forest Park, Illinois

by
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FOREWORD

This document is a description of the Computer Aided Dispatch System designed, implemented and installed at the villages of Oak Park, River Forest and Forest Park. This activity was funded by a grant to the villages from the Illinois Law Enforcement Commission (ILEC) and directly through an Agreement for Cooperative Investigation between Oak Park and the Board of Trustees of the University of Illinois.

Supplementary documents to this report include a Users Manual, and a Programming Manual.

The authors would like to thank the following people and organizations for the assistance provided during this activity: Dave Goldberg from the Illinois Law Enforcement Commission, Chief W. Reichert and staff people from the Oak Park Police Department, Chief F. Ahrens and staff people from the River Forest Police Department, Chief L. Good and staff people from the Forest Park Police Department, and Gene Lee and staff people from the Law Enforcement Agencies Data System (LEADS). Also, the pioneering work performed by Automation Technology, Inc. in regards to the CT-1 Command Terminal System, assisted greatly in the design and implementation of this system.

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Introduction

The Automated Interactive Dispatch System (AIDS) is a law enforcement tool designed to assist in opening up the communications bottleneck which presently exists in nearly every police radio room. The radio room is the nerve center of modern police operations. Radio dispatchers, monitoring the activities of a widely scattered fleet of vehicles, are the recipients of vast amounts of vital information which has to be sifted, organized, and made available for use in making operational and administrative decisions. The radio dispatcher's effectiveness depends critically on the ability of his information handling system to supply crucial data as quickly as possible, with a minimum of wasted effort on the part of the dispatcher.

Another problem associated with present-day dispatching systems is the effective use of modern inquiry terminals connected to state, regional or local police information systems. Good police practice dictates that the capabilities of these systems be fully utilized, but little thought has been given to solving the human factors problems associated with them. Inconvenient terminal placement, and a difficult inquiry language frequently frustrate the dispatcher, who must leave his post and grapple with an inquiry terminal in some remote location. Further, the man on the beat is often discouraged from requesting use of the system, because he must act in a much shorter time frame than the turnabout time on a typical request for information.

AIDS is an integrated, intelligent terminal system capable of semi-automating the processing of radio tickets, maintaining current mobile unit status information and providing an efficient automated interface with the real-time police information system. It is designed to replace both the manual radio ticket system, if one is now in use, and the present real-time police information system terminal device. AIDS will be operated by the mobile unit radio dispatcher or, in some departments, by both the telephone complaint clerk and the mobile unit dispatcher operating in tandem.

AIDS provides the radio dispatcher with an electronic radio ticket, which automatically captures all incoming data in machine-sensible form as it is entered. This greatly increases the efficiency of data collection, and as a by-product gives the dispatcher immediate access to the status of all mobile units, plus a dynamic backlog of unassigned incidents. The equipment automatically formats vehicular and personnel identifiers into correctly structured inquiries which are routed to the inquiry system with no further effort on the part of the dispatcher. Full use is thereby made of the tremendous potential of the inquiry system as an operational tool.

The major goal during the developmental phase was to produce a system which would easily integrate into the dispatching procedures used by most departments and to make the dispatcher's job easier, not harder. Consequently, the system evolved into a practical tool capable of assisting the dispatcher in performing his normal duties and providing a long needed intelligent link between him and the real-time police information system.

The AID System is designed so that communication with patrol cars which have been equipped with either printers or terminals is very easily accomplished. They would still use the same voice communication link which is presently used between the dispatcher and patrol units; however, when it is directly from the computer or dispatch terminal to the printer in the patrol unit, the transmission is much faster and would free up some air time. Also this type of machine to machine communication would produce a secure communication, because it would not be open to unwanted monitoring by the public.

Before describing this system in detail, it will be beneficial to review the methods presently used by typical departments and point out some of their shortcomings.

Background

The concept of a radio ticket (or dispatch ticket, complaint ticket, etc.) as a data collection mechanism has been used in police departments throughout the country for a number of years. These radio tickets, although varying in size, shape, color and content from department to department, are still basically the same and are used to record, at the minimum, some basic facts about each assignment, event or incident that requires the use of a police department's primary resource -- manpower.

Some of the more common data elements recorded for each incident include: time complaint was received, type of incident, location of incident, car number assigned, time dispatched, time of arrival on scene, a complaint or control number and time assignment was concluded. Depending upon the size of the department, the radio tickets themselves may be completed entirely by the radio dispatcher or by a telephone complaint

clerk and radio dispatcher acting sequentially. In that latter case, some departments employ complex conveyor belt systems or other electro-mechanical systems to move the radio ticket from the telephone complaint clerk, who may be in one room, to the radio dispatcher, who may be in another.

These radio ticket systems can and do serve a variety of purposes. These possible uses include: 1) providing a single, event-oriented piece of paper which can be used as a recording medium by the complaint clerk and/or dispatcher to note certain facts about an incident; 2) serving as an activation mechanism for a light board intended to keep the dispatcher informed as to the status of the mobile units under his command; 3) providing the dispatcher with a place to note all requested name or license checks; 4) serving as a physically transferable document between the dispatcher and the operator of the automated police information system terminal (which may not be in immediate proximity to the dispatcher) in the event that a name or vehicle check is requested by the mobile unit; 5) providing an easy origin point for a tight document control system; and 6) collecting all of the information necessary to construct a historical data base from which future operational plans may be constructed, possibly with the aid of an automated resource allocation model of some type.

While a manual radio ticket operation is certainly better than no system at all or one in which a simple chronological radio log is maintained by the dispatcher, there are some basic disadvantages, most of which relate to efficiency.

First, if this radio ticket data is used as it should be for input to an automated management information system, there is a duplication

of effort because the information must be recorded twice -- once by the dispatcher in handwriting and once by the keypuncher in machine sensible form.

Second, when inquiries come in for the real-time information system from the mobile units, there is a duplication or triplication of effort because the data must be recorded two or three times -- once by the dispatcher in handwriting, once by the terminal operator for entry into the real-time system, and perhaps, once by a keypuncher so that a record may be made in some file that a check was run on this person or vehicle on this date, time and address.

Third, the movement of a physical radio ticket between the complaint clerk, the radio dispatcher and possibly a terminal operator is an awkward, inefficient process even if it is aided by some type of mechanized transport. Also, the intermediate filing and retrieval, perhaps several times, of an individual radio ticket during the normal progress of an incident only adds to the overall inefficiency.

Changing the focus of the discussion for a moment, let us turn our attention to the typical real-time police information system having wanted person and stolen vehicle information available for inquiry. This may be a state operated system having terminals located in police agencies throughout the state, a regional system, or, in some large city departments, it may be an in-house departmental information system. Most of these systems have a link, either directly or indirectly, to the NCIC in Washington, D. C.

In most agencies, the terminal having the highest volume of use, if there is more than one, is located in the radio room and is

operated either by the radio dispatcher or a special terminal operator. This location is the most logical since, almost without exception, it is the closest practical point to the information system's ultimate user, the officer in the mobile unit, who is linked to this site by voice radio.

The information systems themselves consist of computers, automated files, communications equipment, telephone lines and terminal devices. Generally, these systems have been developed and implemented at an enormous cost, sometimes reaching several million dollars. Operating at fantastic speeds, the automated portions of these systems have a tremendous capacity for processing inquiries, switching messages and other type of work. It is obvious that the intent was that the systems be used and used heavily. And so they should, since, as is the case with any other type of event having a probability factor associated with it, the more inquiries that are made, the more "hits" or positive responses that will be received. In fact, it would be extremely good police practice to run a name and/or vehicle check on the persons or cars involved in every police contact. Only in this way can the system provide its maximum benefits in protecting the officer on the street and increasing the criminal apprehension rate.

Unfortunately, most police information systems do not permit this volume of use in actual operation. The reason, however, normally does not lie within the automated facets of the system itself, but rather in how the total system (in the larger sense of the word) was defined. Systems are not limited in composition to computers, automated files, terminals, etc., they include most importantly, but also most overlooked, users and the users' operational environment.

Most operational real-time police information systems have not considered these latter factors and it is in this area that bottlenecks occur which prevent the automated system from delivering all of its potential benefits. The designers of these systems have, in most cases, limited the system to include only the automated portions and consequently present the radio dispatcher or his assistant with a terminal device of some type (ASR 35, IBM 1050, etc.) possibly located inconveniently, an inquiry code structure designed for ease of handling by the computer (not by the operator), training on system use, an operator's manual, and then leave him with the job as serving effectively and efficiently as an intermediary to the ultimate user, the man on the street, while at the same time performing all his other normal functions.

The problems which will cause the ultimate bottleneck can be made up of many elements. First, there may not be enough radio air time available to permit a high level of inquiry use by mobile units. Second, incoming inquiry particulars are usually recorded in handwriting by the dispatcher on the radio ticket from which then either the dispatcher or a terminal operator must immediately re-record it by typing it into the terminal device. Third, the terminal device itself may be completely across the room from the dispatcher and not near his primary work station, the radio console, thereby causing either him or the terminal operator to physically move across the room to process the request. Fourth, the inquiry must be translated into the properly structured format, which itself can sometimes be a frustrating experience. Fifth, where unbuffered terminals are being used, many agencies prepare a punched paper tape first

and then feed this into the terminal so that it may transmit at full speed, but thereby slowing the total turn-around time for the inquiry.

It is readily apparent, then, that there are many stumbling blocks between the information system user, the man on the street, and the information system itself which prevent maximum utilization. From the users point of view, therefore, the system often appears unresponsive to his needs within the time framework he operates in and, consequently, he uses the system only when absolutely necessary and not as part of a normal operating sequence.

To cope with these problems, the attack must be launched at the nucleus of the difficulty, that being the radio room itself, its operating personnel and procedures and the operator-information system interface. To the degree possible, the radio dispatcher must be provided with an integrated mechanism for handling his normal dispatching and data collection duties and also interfacing with the automated information system in an efficient manner.

Subsequent paragraphs will center around describing a device which has been developed to accomplish this task. Other facets of the problem such as insufficient radio air time, while in some cases of critical importance, will be skimmed over with the reminder that radio channels are as much a part of the total information system as the telephone wires connecting the terminal device and the central computer. If they are inadequate, every effort must be made to obtain additional frequency allocations and install the necessary radio equipment. However, if mobile printers or mobile terminals were employed the radio air time would be decreased for each incident.

Technical Overview

The basic AID System is composed of a mini-computer, large disc pack unit, paper tape reader, a console printer, a visual display device (CRT), a standard typewriter keyboard with additional function keys, a printer and a set of operational computer programs. While all the units are welded together logically into a total operating package, the dispatcher is physically confronted with only the visual display device, the keyboard and the ability to obtain hard copy on the printer. This basic system is depicted by figure 1 and would be adequate for a small size city. A significant feature of this system is the ability to expand for medium size cities or several different small cities without duplication of the major hardware items (i.e. computer, disc, console, etc.). This expandability to different types of systems will be explained in detail later.

In overview, the system has applied the tools of modern technology to the traditional manual radio ticket system and has additionally supplied the police dispatcher with a powerful lever in making efficient use of the real-time police information system. In this system, radio tickets are no longer pieces of paper to be completed in handwriting, time stamped, filed in slots and ultimately keypunched to permit further analysis by computer. Rather, the radio ticket has been converted into an electronic form appearing before the dispatcher on a visual display device and the dispatcher fills in some of the blanks by utilizing a keyboard while the system assists him by filling in others automatically.

In many cases the visual display device can be integrated into the radio console itself, so that it is immediately in front of the

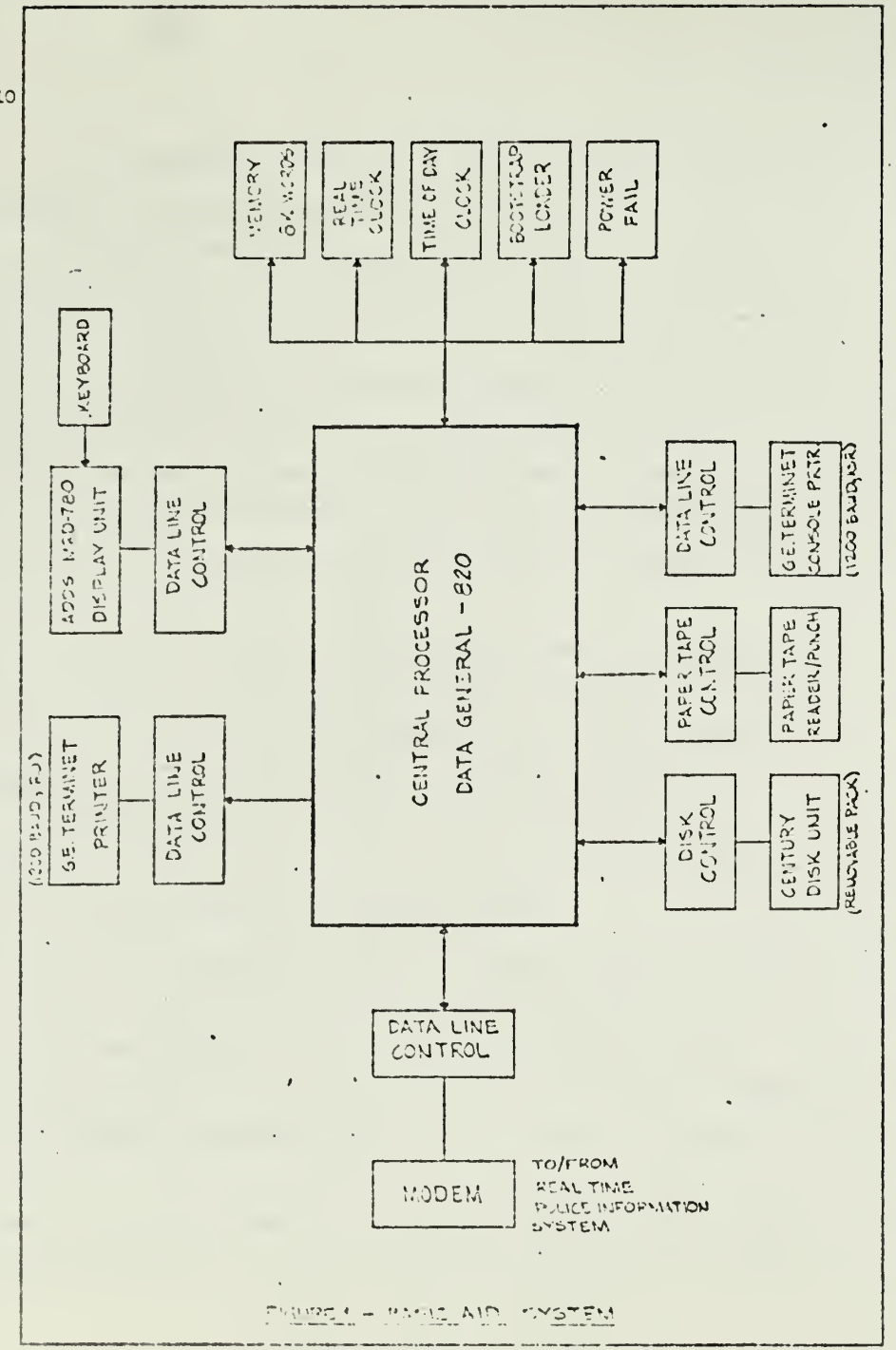

FIGURE 1 - RADIO AID SYSTEM

dispatcher when he is seated in his normal operating position. The keyboard is placed on the console desk top in front of the dispatcher. The printer, which is used primarily for hard copy output, may be located in various places, depending upon the department's normal operational procedure. All other equipment may be located in a separate room with the communications equipment, or in any other suitable place. The system is designed to replace the present real-time information system and the same terminal equipment used for dispatching will be used for communication with the real-time information system.

The "tickets" may be filed away in the system's memory at any time to permit the dispatcher to process or initiate other tickets. These stored away tickets may be recalled to the screen at will by the dispatcher at any time. Additionally, as name and/or vehicle checks come in from the mobile unit handling a specific incident, the dispatcher need only fill in the necessary fields on the unit's radio ticket; the system then automatically formats this data into the proper inquiry language and transmits the resultant inquiry to the real-time police information system, again automatically.

A mobile unit status display is maintained on an up-to-the-minute basis automatically by the system as a by-product of processing the radio tickets. Thus, the dispatcher can, at any time, press a function key and review the operational status of all units under his command, along with some additional information about each unit, such as names and/or badge numbers of officers assigned, time at last radio contact, last known location, etc.

The status of all active tickets can also be obtained by the dispatcher, at any time, by pressing a function key.

When the patrol units and officers are assigned at the start of the shift, this information is given to the computer. Thereafter, whenever a complaint is received and the information is recorded on the radio ticket, the system will automatically recommend a specific mobile patrol unit to handle the incident. This recommendation is based upon a priority structure established initially by the department, and also considers the present availability status of all units. The dispatcher has the option of accepting this selection or selecting a different unit to handle the incident.

As the 911 emergency telephone system becomes more widespread, a central complaint area has to handle all calls -- police, fire, public works, etc. The computer based dispatch system can be easily tailored to handle all these different emergencies. Also, if the telephone system can provide the incoming call telephone number in computer form, the computer can perform an automatic look up and display to the dispatcher who is listed for that particular telephone number.

When a complaint is received by a complaint clerk, and the type of incident is recorded, the computer automatically assigns a priority depending upon the type of incident. If the incident requires a top assignment priority (robbery in process, rape in process, etc.), a message is automatically and continually flashed on the dispatcher CRT console. The dispatcher by pushing a function key, can recall this ticket and complete an immediate dispatch, even while the complaint clerk is obtaining additional information. If the incident is not a top priority, it will

automatically be placed into the pending assignment queue and the dispatcher will handle these actions as patrol units become available.

As a safety feature for the man on the street, the system contains a "watchdog timer" capability which notifies the dispatcher if no contact has been made with a particular unit within some predetermined amount of time. The amount of time permitted before an alert message is displayed may vary, depending upon the type of incident being handled.

Completed radio tickets, being recorded originally in machine sensible form, can be sent directly to the management information system computer if it is capable of accepting the data this way, or it can be recorded on any type of optional output media desired such as paper tape, punch cards or magnetic tape.

Directed or point-to-point messages coming to the agency through the real-time information/message switching system are automatically routed by the computer to the printer along with a message on the CRT informing the dispatcher that a message was received. This precludes interference with the dispatcher's high priority functions. Either he or another person can process the message when time permits. Outgoing directed messages can be sent from the dispatcher's visual display unit. In either event, the system will handle all necessary formatting and the insertion of fixed message header elements.

A Multi-City System

Due to increasing costs of operations, the concept of jointly sharing certain resources between neighboring communities but also maintaining the autonomy of individual operation has become increasingly

attractive. The AID System provides an excellent way to assist departments in this area and can provide each department with full system capability on a more cost-effective basis. It will also provide back-up capability for any department in case of an emergency.

The AID System may provide many of the advantages on a Centralized Dispatch Facility for several users without many of the disadvantages. The Villages of Oak Park, River Forest, and Forest Park, Illinois, have such a situation where the three villages have the capability of distributing and sharing resources (manpower) through the use of the AID System. Figure 2 illustrates the three communities, where they share a common radio transmitter and share common ties through the AID System. Each community will operate as an independent agency, as though each one had a computerized radio ticket and dispatch system. However, due to the fact that each is using the same computer on a time sharing basis (each would not even know the other is present), in case of an emergency one community can take over and assist the other department because the necessary data is instantaneously available.

The first AID System for a multi-city operation has been installed in the villages of Oak Park, River Forest and Forest Park, Illinois. The system could be expanded to handle additional communities in the future with only the addition of the equipment required at each dispatch console. This system will serve as a model to describe in detail a typical multi-city AID System.

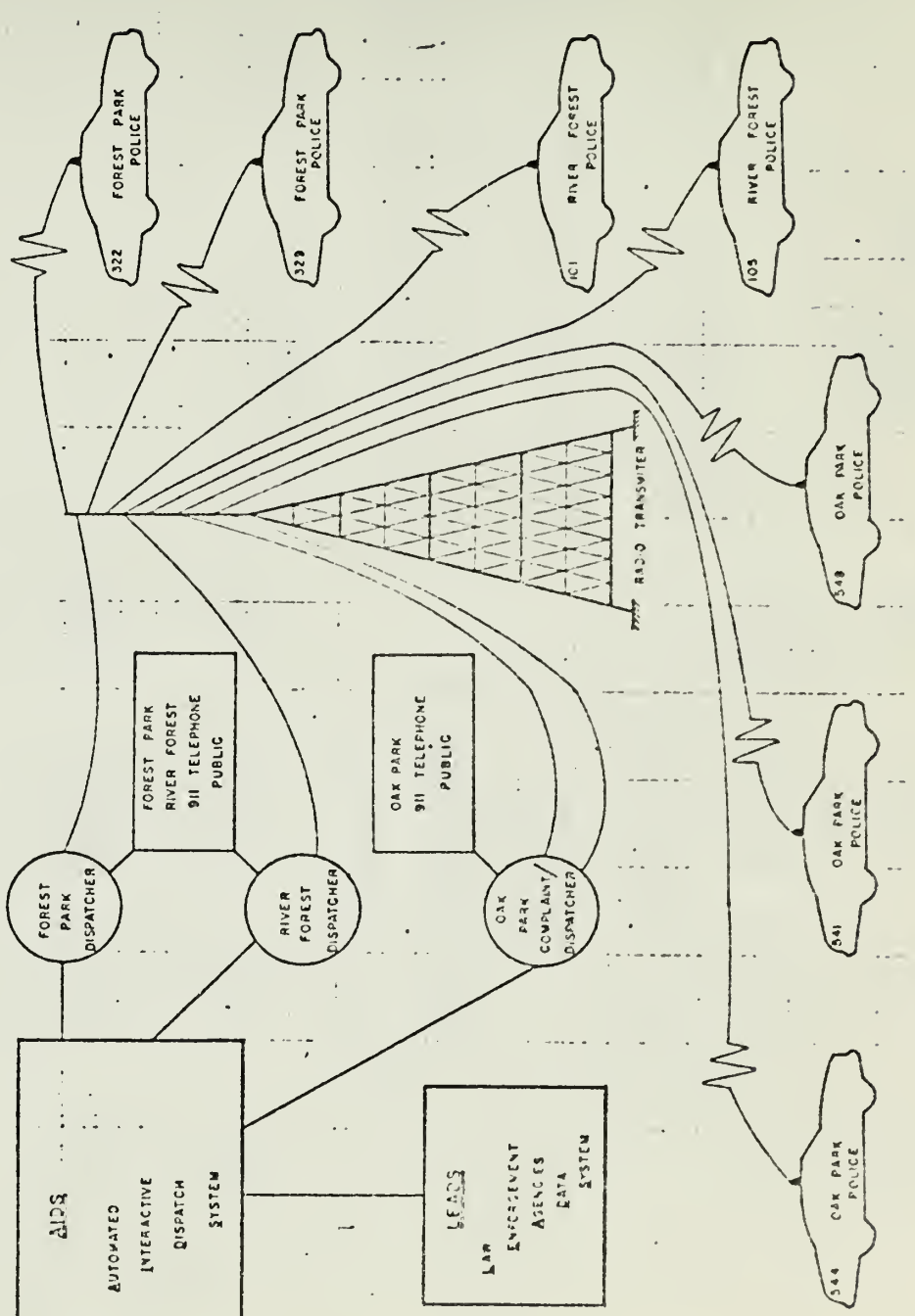

Figure 2. Communication System

The AID system consists of the following equipment and is depicted in figure 3.

1 Data General 820 Computer with 24,000 words of core memory, a bootstrap loader, power fail restart and real time clock

1 Century Data CDS-114 Disk Pack Unit

1 Magnetic Tape Unit (IBM Compatible)

1 Paper Tape Reader

1 Paper Tape Punch

1 GE Terminet 1200/KSR Console Printer

14 Data Line Controllers

3 GE Terminet 1200/RO Printers

7 ADDS CRT display units

2 ADDS CRT slave units

7 Special keyboards

8 Modems

In this system, Oak Park is the largest city and has the largest police department, therefore, the computer system will be physically located in Oak Park's police station. The computer system is pictured in figure 4 and can be located in any room within 1000 feet of the dispatch room. Oak Park will have a three position complaint/dispatch control console. Any of the three positions can be used at any time for either of two functions -- dispatch or complaint clerk.

The dispatchers do not as a general rule interact with the computer hardware as shown in figure 4 except to change the paper or tapes

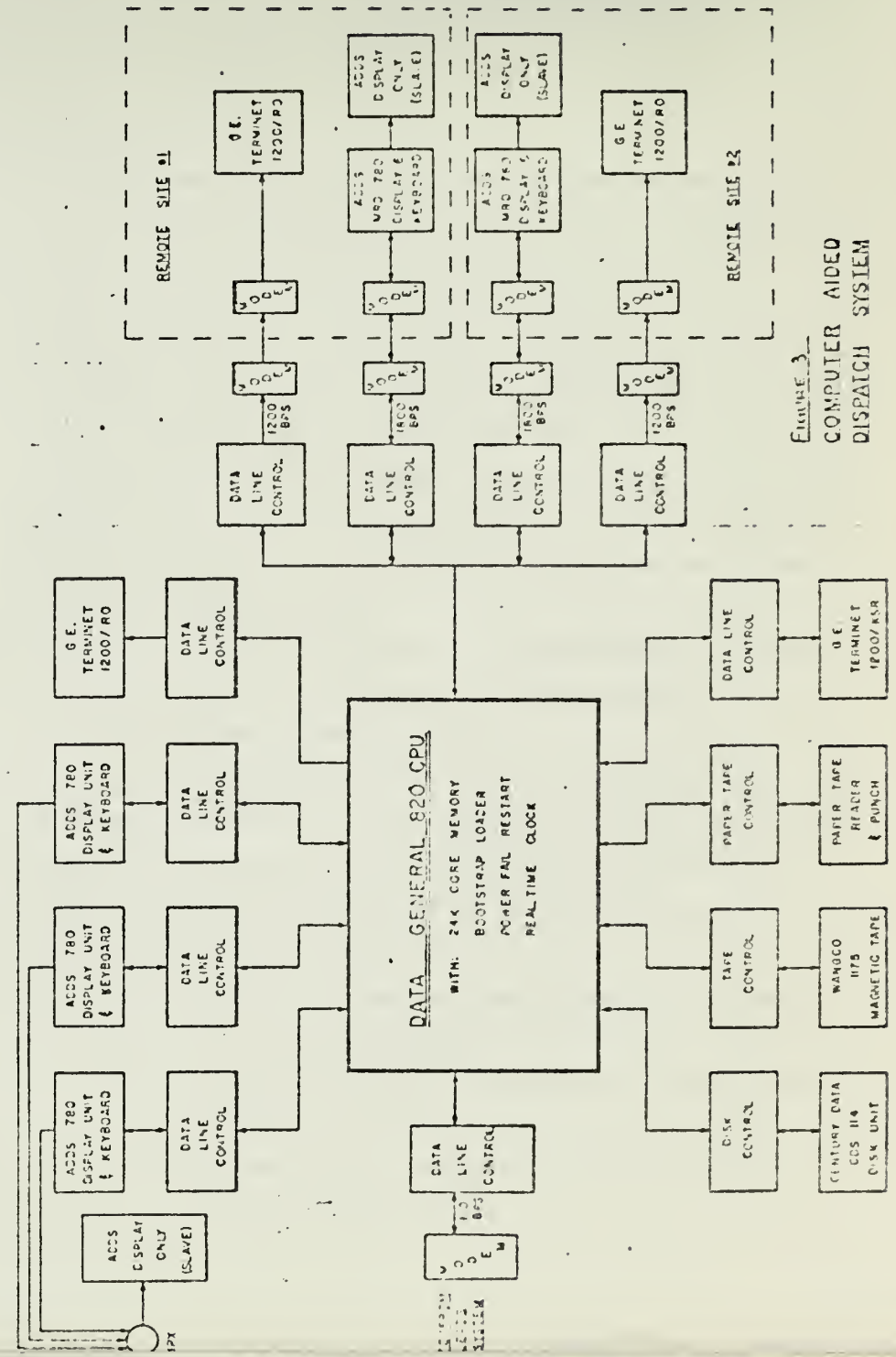

FIGURE 3
COMPUTER AIDED DISPATCH SYSTEM

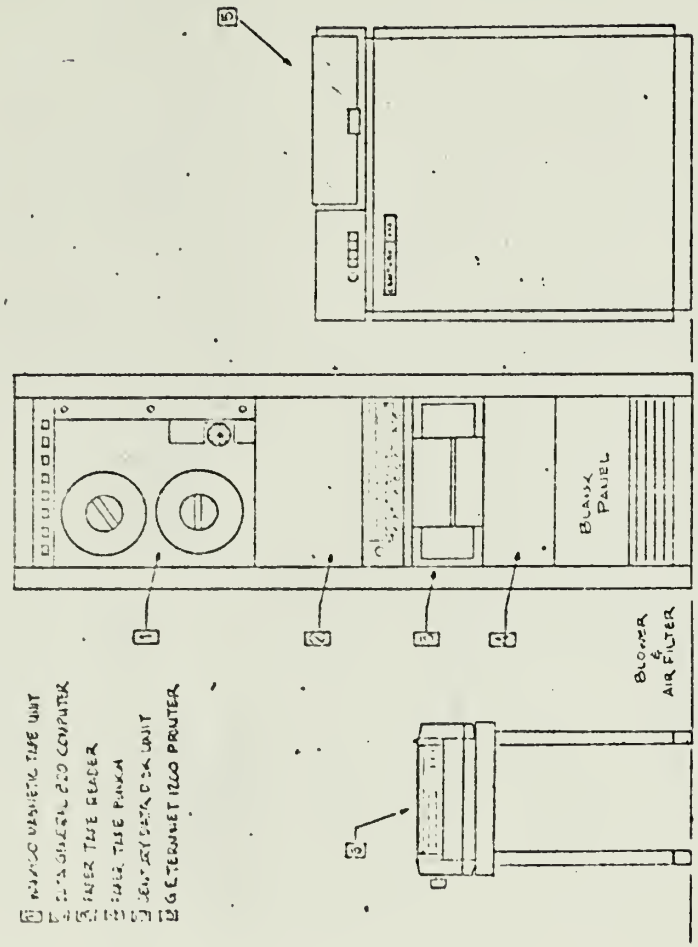

FIGURE 4.
EQUIPMENT CONFIGURATION
COMPUTER AIDED DISPATCH SYSTEM
(HOST SITE - NEUTRAL PROCESSOR)

or if a restart is required. They operate with a keyboard which is shown in figure 7 and a CRT screen which is shown in figure 5. Each transaction is initiated by the operator pushing a particular key and all data is entered by the keyboard. The visual display that the operator has to work with is the CRT screen and the format of this screen is illustrated by figure 5. The top part of the screen is reserved for tickets. (A sample ticket is shown in figure 5. The lower case letters, which is the format, will really be in a light gray color on the screen while the capital letters will be in dark black, with a white background.) The middle area, which is labeled "working area" is where the main working functions are performed. This is so a ticket can remain in view while unit status or some other operations are obtained. The bottom two lines of the screen are reserved for special messages such as Need Radio, Want Radio, LEALS Reply, etc., or any directed message from another operator.

As described earlier, the heart of the operation for the complaint/dispatch function is the radio ticket or complaint form. Table 1 lists the fields in the standard form and figure 6 illustrates how the ticket would appear on the display CRT at the dispatch console. The explanation for each field follows:

1. Ticket Number -- a sequential number assigned to each ticket as it is used by the operator
2. Nature of Incident -- a small "text" field used to describe the incident in brief form
3. Incident Code Number -- a number used to place each incident into a pre-defined category

```
incident: ACCIDENT                    0843 CST  11 DEC 1973  code 1050  K73-00019
location: RIDGELAND AND MADISON       OAK PARK        , IL  post 11     OP  03154
caller  : MR JOHNSON                  victim: SAME                      code 0
address : 637 HARBOR TERR             BARTLETT        , IL  telephone: 386-3011
unit 544  WATERSON                    assigned 0843  arrived 0844  completed 0847
from 8    assist NONE                       received by 317   dispatched by 317
notes: PROPERTY DAMAGE ONLY

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                    (working area)

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                    (message area)
```

Figure 5. CRT Screen

```
INCIDENT:                                  time CST      date        CODE      complaint
LOCATION:                                       city        , st    POST      pc  event

CALLER  :                                  VICTIM:                              accident
ADDRESS :                                       city        , st  TELEPHONE:  -

UNIT                                       ASSIGNED      ARRIVED      COMPLETED
FROM        ASSIST      ,     ,     ,      ,      RECEIVED BY      DISPATCHED BY
REMARKS :
```

```
COLOR:      YEAR:     MAKE:        MODEL:       STYLE:     LIC:
 note 1      ID:                    MISC:

 note 2                             S/R:     NAT:      BORN:          AGE:
WGT:      WGT:      HAIR:    EYES:   SS:   -   -      DL:
MARKS:                MISC:                                          DISP:

note1:contains WANTED or STOLEN
note2:contains WANTED or MISSING
```

(lower case = Computer supplied text)

FIGURE 6 - COMPUTER AIDED DISPATCH SYSTEM - TICKET FORMAT

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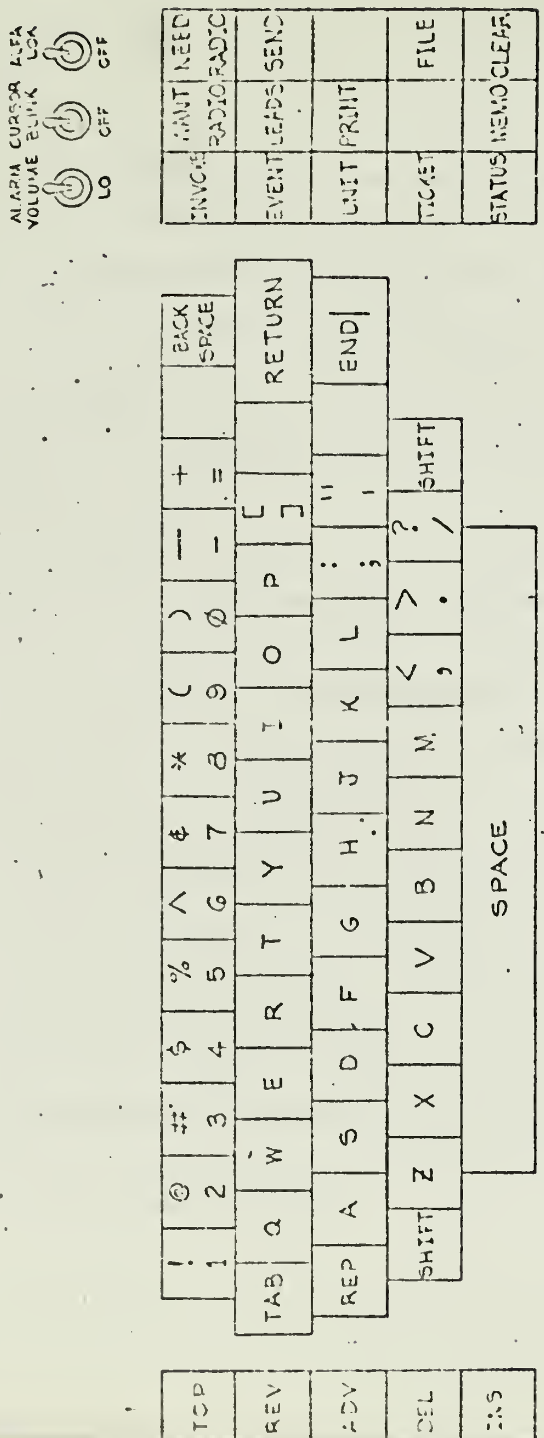

FIGURE 7
AUTOMATED INTERACTIVE DISPATCH SYSTEM - KEYBOARD LAYOUT

Rev. 7-73

Field Number	Field Name	Filled in by: Operator	Filled in by: Computer
1.	TICKET NUMBER		X
2.	NATURE OF INCIDENT	(Note 1)	X
3.	INCIDENT CODE #	X	
4.	INCIDENT LOCATION	X	
5.	COMPLAINANT NAME	X	
6.	COMPLAINANT ADDRESS	X	
7.	COMPLAINANT TELEPHONE #	X	
8.	VICTIM NAME	X	
9.	POST NUMBER		X
10.	DATE		X
11.	RECEIVED BY	X	
12.	TIME RECEIVED		X
13.	COMPLAINT NUMBER		X
14.	UNIT ASSIGNED	X	
15.	OFFICER(S) ASSIGNED		X
16.	FROM POST #	X	
17.	TIME DISPATCHED		X
18.	TIME ARRIVED		X
19.	TIME COMPLETED		X
20.	DISPATCHED BY	X	
21.	ASSISTING UNIT(S)	X	
22.	REMARKS	X	

Note 1 -- If the incident code is given, this field will be filled in by the computer.

Table 1 -- Field Allocation--Standard Complaint Form

4. Incident Location -- a small text field used to define in brief form, where the incident occurred
5. Complainant Name -- a text field used to record the name of the complainant. If the incident was reported by a police officer, this field may contain his name.
6. Complainant Address -- a text field used to record the address of the complainant, if given. Otherwise, this field is left blank.
7. Complainant Telephone # -- a text field used to record the telephone number of the complainant, if given. Otherwise, this field is left blank. This field may be automatically filled with information provided by the telephone company.
8. Victim Name -- a text field used to record the name of the victim of the incident, if any.
9. Post Number -- this field is used to record the post number assigned to the geographic area in which the incident occurred. It is possible that auto-correlation of street addresses into post numbers can be done. If so, this number can be computer supplied.
10. Date -- a numeric field used to record the current date
11. Received by -- a text field used to record the ID of the person receiving the call. This field could contain badge number, name, or initials.

12. Time Received -- one of four required time entries on the ticket. This time is supplied at the time that the ticket is generated. (Standard or Daylight Time will also be indicated.)
13. Complaint Number -- a sequential number assigned to the ticket, upon request, if a ticket number is present on the ticket. This number will be used by the unit assigned on subsequent written reports and is used to provide "linking" of all computer files and/or written reports.
14. Unit Assigned -- this field is used to record the number of the unit dispatched to service this ticket.
15. Officer(s) Assigned -- this text field is used to record the badge number(s) and/or name(s) or the officer(s) associated with the unit assigned to the ticket.
16. From Post # -- this text field is used to record the post # from which the unit is being sent.
17. Time Dispatched -- this time is entered onto the ticket by the computer when the dispatcher reports the first unit is assigned to the incident.
18. Time Arrived -- this time is entered onto the ticket by the computer when the dispatcher reports the first unit has arrived at the scene of the incident.
19. Time Completed -- this time is entered onto the ticket by the computer when the dispatcher reports the last unit assigned to the ticket is back on patrol duty.

20. Dispatched by -- a text field used to record the ID of the person dispatching the unit(s) assigned to the ticket.

21. Assisting Unit(s) -- this field is used to record the number(s) of the units that have been dispatched to assist the primary unit assigned to a ticket.

22. Remarks -- this is a text field of up to 216 characters (three lines of 72 characters each). This field is used for general descriptive information that is not recorded elsewhere on the ticket.

As also illustrated in figure 6, a formatted field exists for both Wanted/Stolen Vehicles and Wanted/Missing Persons. These formats can be called by the dispatcher and appended to the radio ticket by use of function keys. After the format has been called and displayed on the dispatcher CRT, the appropriate fields can be completed.

This is very similar to many existing radio tickets which are in use in various Police Departments. The present form is a card with the standard dispatch information on the front side and the Wanted/Missing Persons and Wanted/Stolen Vehicle on the reverse side. This system has the back side of the ticket available whenever it is necessary to be added to the standard front side. The detailed approach of obtaining and working with either the front or back sides are described in the following sections.

User Reference Section

The dispatcher's keyboard is similar to a standard typewriter keyboard with which he should already be familiar. It also has fifteen function keys and ten special control and editing keys. The keyboard is shown in Figure 7 and the following paragraphs describe the function of each of the function and control keys. When entering or editing the formatted data within a ticket, these special control keys perform the following actions:

Editing Keys:

A.1. SPACE Key -- positions the cursor one position to the right within the current field, leaving the data unaltered.

A.2. TAB Key -- positions the cursor at the first data position of the next field, leaving the data unaltered. Also used as a terminator with some function keys.

A.3. RETURN Key -- erases all the data from the current cursor position to the end of the field. The cursor is left at the first position of the next field. Also used as a terminator with some function keys.

A.4. BACKSPACE Key -- positions the cursor one position to the left within the current field, leaving the data unaltered.

A.5. REV Key -- positions the cursor at the first position of the previous field.

A.6. TOP Key -- positions the cursor at the first data position of the first field on the screen.

A.7. ADV Key -- positions the cursor at the first data position of the first field of the next line.

A.8. INS Key -- moves all the data from the current cursor position to the end of the field one position to the right, and inserts a blank space at the current cursor position.

A.9. DEL Key -- deletes the character at the current cursor position, and moves all the data from the current cursor position to the end of the field one position to the left.

A.10. REP Key -- when this key is held down and any other key is depressed, that character will be repeated until the repeat key is released.

A.11. END Key -- recalls the next page of the ticket, and positions the cursor to the top of the new page. Also used as a terminator with some function keys.

These special editing keys allow the operator to make corrections, additions, deletions, etc. very easily to any field. They provide some features which are not available on a typewriter, which are very useful when an item has to be retyped to correct errors. This flexibility helps the personnel using the system by saving time in correcting or editing files.

The keyboard as shown in Figure 6 has the standard typewriter keyboard, the special control and editing keys as described in A.1 through A.10, and function keys described in B.1 through B.12. Both the TAB and RETURN Keys are used as Terminators and sometimes the END Key; however, when using them, be careful to note the difference between the actions of the two as described in A.2 and A.3. As shown in Figure 6, there are blank function and control keys on the keyboard. These are provided for future expansion or hand tailoring of the system to a practical situation. The following paragraphs describe these function keys:

FUNCTION Keys:

B.1. EVENT Key. This key is used to generate a new ticket for an incident. The sequence used to implement this function was designed to preserve a reasonable degree of security against inadvertent replacement of the current ticket on display without sacrificing simplicity, directness, and ease of operation. For this reason, two separate actions are required of the operator before a new ticket replaces the current ticket on display.

When the operator presses the EVENT Key, he is presented with a short message requesting an incident code. The codes which can be used are presented along with the name of the incident and priority number in Table 2. He may enter this code, or he may omit it. In any case, he must press a terminator key. Having done this, he is presented with a message requesting the location of the incident. He may enter the location of the incident or omit it; however, he must press a terminator key before the new ticket will be displayed. At this point he may continue to enter data about the incident or he may select and assign a unit to it since he has sufficient information about the incident to dispatch a unit if the code and location have been entered.

When the new ticket appears on the screen, the first two lines of the ticket (nature of incident, incident code, time and date, location, city, state and post) will be already filled in by the system. If the code was omitted, the nature-of-incident field will be left blank, and if the street address is not valid, the geographic lookup will fail and the Post # will not be completed. The system will also assign a ticket number at this time.

Incident Code	Incident Name	Priority Level
1010	FIGHT IN PROGRESS	55
1011	DOG CASE	35
1013	WEATHER	15
1014	PROWLER	75
1015	CIVIL DISTURBANCE	75
1016	DOMESTIC PROBLEM	55
1017	MEET COMPLAINANT	35
1031	CRIME IN PROGRESS	75
1032	MAN WITH GUN	75
1033	EMERGENCY	75
1034	RIOT	75
1035	MAJOR CRIME ALERT	15
1037	SUSPICIOUS VEHICLE	55
1045	ANIMAL CARCASS	35
1046	ASSIST MOTORIST	35
1047	ROAD REPAIR	15
1048	TRAFFIC SIGNAL REPAIR	35
1049	TRAFFIC SIGNAL OUT	15
1050	ACCIDENT	75
1051	WRECKER NEEDED	15
1052	AMBULANCE NEEDED	75
1053	ROAD BLOCKED	35
1054	LIVESTOCK ON HIGHWAY	35
1055	INTOXICATED DRIVER	75
1056	INTOXICATED PEDESTRIAN	55
1057	HIT AND RUN	75
1059	ESCORT	35
1070	FIRE ALARM	75
1073	SMOKE REPORT	55
1080	CHASE IN PROGRESS	75
1089	BOMB THREAT	75
1090	BANK ALARM	75
1091	PICK UP	55
1092	IMPROPER PARKING	35
1093	BLOCKADE	35
1094	DRAG RACING	35
1096	MENTAL CASE	55
1098	JAIL BREAK	75

Table 2. Incident Codes and Priorities

Once a ticket is assigned a ticket number, the ticket is considered essentially complete. Additional information may be added to the ticket immediately, or later. If the ticket is replaced by another on the display screen, the ticket may be recalled using the ticket number.

B.2. TICKET Key. This key is used to recall a desired ticket, by ticket number. It is also used to recall pending tickets from the backlog, beginning with the oldest tickets of highest priority. The priority of a ticket is determined by the system, based on the incident code.

When the operator presses the TICKET Key, he is presented with a message requesting a ticket number. He may enter a ticket number, followed by a terminator, in which case the ticket bearing that number will be recalled and displayed; or he may recall the ticket previously displayed on his screen by entering the number "zero" followed by a terminator; or he may enter RETURN alone, in which case the highest priority ticket in the backlog will be recalled and displayed. If the operator wishes to see the next ticket in the backlog, he must press a terminator again.

(This key may also be used in conjunction with the STATUS key to display ticket status tables as described in B.4.)

B.3. UNIT Key. This key is used to examine and modify the status of a selected unit. It may also be used to recall a ticket to which one or more units are assigned. Altering the status of a unit which is assigned to a ticket may also modify the ticket status, dependent upon the particular status code entered.

When the operator presses the UNIT key, he is presented with a short message requesting a unit number. He may enter a unit number

followed by a terminator, in which case he will be presented with a short message requesting a status code. (These codes and associated actions for each are listed in Table 3.) He may reply to this by entering a status code followed by a terminator, which will cause the system to update the status of this unit. If a status code of "zero" is entered, the ticket to which this unit is assigned, if any, will be recalled and displayed on his screen.

The status of a single unit may be obtained by pressing the STATUS key any time between filling in the unit number (following the UNIT Key) and the second terminator (the terminator used to complete the code field of the standard sequence).

(This key may also be used in conjunction with the STATUS key to display unit status tables as described in A.4.)

B.4. STATUS Key. This key is used, together with the UNIT or TICKET Keys, to display the current UNIT STATUS or TICKET STATUS. The format for both of these status tables are shown in Table 4. (This key is also used to obtain the unit number recommended by the computer for assignment, if this option is programmed into the system.)

Normally, the STATUS key will be used directly following either the UNIT or TICKET keys to display the status of all units or tickets belonging to the control center making the request, as shown in Table 4. However, it is possible to display the status of units or tickets belonging to another control center by entering the control center name before pressing the STATUS key.

Table 3. Unit Report Codes

Standard Sequence of Events: When the operator presses the UNIT Key (the message "UNIT" will appear on the screen), he then types the unit number followed by a terminator (the message "CODE" will appear on the screen), he then types one of the following codes, followed by a terminator.

Notes: 1) Upon successful completion of this sequence of actions for any of these unit codes, a single line of data will appear on the screen showing the new status of that unit for verification by the operator.

2) Whenever the system refuses any action of the operator, his alarm will sound at his keyboard, a question mark "?" will appear on his screen and note #1 will not occur.

Unit Action Code	Name	Action
1006	Busy	The dispatcher can place a unit busy by using the standard sequence of events. The report will be refused if the unit is not on duty.
1007	Out of Service	The dispatcher may place a unit OOS by using the standard sequence of events. The report will be refused if the unit is not on duty.
1008 or 1019	In Service	The system will automatically place a unit in service whenever he completes an event by reporting 1024. However, the dispatcher can place a unit in service by using the standard sequence of events and the unit's location in the Unit Status table will reflect the area to which he was assigned when he came on duty. The report will be refused if the unit is not on duty.
1020	Change Location	The dispatcher can change the location of a unit by using 1020 without changing his status. He uses the standard sequence to start with and then types the new location (up to 24 characters) after the second terminator. The report will be refused if the unit is not on duty.
1022	Disregard	The dispatcher can have a unit disregard an assignment by using the code 1022 in the standard sequence of events. The system will automatically place the unit to a busy status. If the unit was the primary unit assigned to a ticket, the unit number will be removed from field of assignment on the ticket. The report will be refused if the unit is not on duty.
1023	Arrive	The dispatcher will place a unit on 1023 as soon as the unit reports that he has arrived on the scene by using the standard sequence of events. Automatically the ticket to which this unit has been assigned will be updated with this new time and the location for the unit in the Unit Status table will be taken from the ticket. The report will be refused if the unit is not on duty or if the unit has not been assigned.
1024	Completed	The dispatcher will complete a ticket and the system will bring the unit back to busy status when the unit reports that he has completed the incident. The dispatcher uses the standard sequence to start with and after the second terminator the system will ask for "disposition" which can be up to 4 characters in length followed by a terminator. The system automatically takes the time for completion and the disposition and places them on the ticket. The report will be refused if the unit is not on duty or has not been assigned. The system will also remove all additional units assigned to that ticket and then remove that ticket from the active list.
1025	Return to Station	The dispatcher can place a unit 1025 by using the standard sequence of events. The report will be refused if the unit is not on duty.

Table 3 (continued)

Unit Action Code	Name	Action
1028	Registration Check	The dispatcher can enter a vehicle check into the LEAPS system using this code in the standard sequence. After the second terminator, he will be asked, in turn, "LICENSE", "STATE", and "YEAR". He may enter the requested information, ending each entry with a terminator, or he may omit any data by entering only a terminator, in which case a default value will be supplied. At any time, he may terminate the process by pressing the "ENT" key, at which point the message will be properly formatted and forwarded to LEAPS.
1029	Driver Check	The dispatcher can enter a name check into the LEAPS system using this code. In the standard sequence. After the second terminator, he will be asked, in turn, "DOB", "SEX", "RACE", etc. He may enter the requested information, ending each entry with a terminator, or he may omit any data by entering only a terminator, in which case a default value will be supplied. At any time, he may terminate the process by pressing the "ENT" key, at which point the message will be properly formatted and forwarded to LEAPS.
1027	Warrant Check	The dispatcher can enter a driver's license check into the LEAPS system using this code in the standard sequence. After the second terminator, he will be asked, in turn, "LICENSE", "STATE", and "EXPIRES". He may enter the requested information, ending each entry with a terminator, or he may omit any data by entering only a terminator, in which case a default value will be supplied. At any time, he may terminate the process by pressing the "ENT" key, at which point the message will be properly formatted and forwarded to LEAPS.
1041	On Duty	The dispatcher uses this code to bring each unit on duty. The terminal must be already assigned to a valid city before the system will accept this code. The dispatcher will use the standard sequence to start with and following the second terminator he will be asked "Area" (up to 24 characters) followed by a terminator, and then he will be asked "Name" of officer(s) again (up to 24 characters in length) followed by terminator. This information will show up for this unit on the Unit Status and the officer(s) name will be automatically filled in on any ticket to which that unit is assigned. The report will be refused if the unit is already on duty.
1042	Off Duty	The dispatcher will complete the activities of each unit at the end of a shift or whenever they go off duty by using the standard sequence of action. The report will be refused if the unit is not on duty or if the unit is assigned to a ticket.
1044	On Break	The dispatcher will place a unit on break by using the standard sequence to start with and following the second terminator, he will be asked for "Location" (up to 24 characters in length) followed by a terminator. This location will show up on Unit Status. The report will be refused if the unit is not on duty or if the unit is assigned to a ticket.
1076 or 1017	Assign	The dispatcher can assign a unit to a ticket by using this code in the standard sequence of events. He will be asked "From Fort" which can be filled in and will be automatically logged onto the ticket, along with the time of assignment. The report will be refused if the unit is not available for assignment or if a ticket is not displayed on the dispatcher's screen.
1086	Name Change	The dispatcher can change the names of officer(s) assigned to a unit by using this code without changing the status of the unit. He will start with the standard sequence and after the second terminator he will be asked for "Name" (up to 24 characters). The report will be refused if the unit is not on duty.

Unit Status

CCN	Unit	Code	Time	Event	Officer	Location
O	543	10-08	11:48		Nelson and Kane	
O	545	10-06	12:01	00159	Watterson	640 W. Lake St.

Ticket Status

CCN	Event	Code	Time	Unit or Priority	Incident	Location
O	00158	10-10	11:58	545	Fight in Progress	640 W. Lake St.
O	00159	10-11	11:59	*35	Dog Case	435 W. Madison

*This priority # would be flashing, indicating that no unit has been assigned to it.

Definitions

CCN - Control Center Name (O = Oak Park, F = River Forest, F = Forest Park, etc.)

Unit - Unit number

Code - Ten code - {under Unit Status, it is the status of that unit; under Ticket Status, it is the incident code}

Time - Time of day - {under Unit Status, the last time a status change was reported by that unit; under Ticket Status, it is the time the call was received}

Event - Ticket number

Priority - The priority number will flash in this field until a unit is assigned to the ticket.

Officer - the name of officer(s) (up to 24 characters) assigned to the unit

Incident - the nature of the incident

Location - the location (up to 24 characters) of the incident

Table 4. Unit and Ticket Status

If the unit assignment recommendation option is desired and programmed into the system, it operates as follows: After pressing the UNIT key (assuming that a ticket is on the screen which requires an assignment), the operator is presented with the message "UNIT", requesting a unit number. If, instead of entering a unit number, he presses the STATUS Key, the system will, in addition to displaying the status of all units, select one for assignment to the ticket on display, and insert its number after the "UNIT" message. The operator may then accept the recommended unit, or he may type a different unit number over it. In either case, he must press a terminator and enter either 1076 or 1017 for unit assignment followed by a terminator.

P.5. INVOKE Key. This key is used to permit the addition of seldom-used auxiliary functions. When the operator presses this key, he is presented with (:) requesting that he type a function name (outlined in Table 5) and then follow the name with a terminator or a SPACE. This table describes what happens for each of the many functions which are obtainable under the INVOKE Key. Additional functions can be added as they are required.

P.6. WANT RADIO and NEED RADIO Keys. These two keys provide a means to help co-ordinate the use of a common radio transmitter or frequency by several control centers. Pressing either of these keys causes a short alert message to appear in the message area of every terminal connected to the system. The message is displayed in each case in the same location; however, NEED RADIO causes the message to flash and the audible alarm to sound at each keyboard, while the WANT RADIO message does not flash and the alarm sounds only once. It is important to note that the only person that can terminate this request, is the requestor. This is done by pressing the "END" Key or any function key.

Table 5. INVOKE Functions

Name	Description
EXIT	This function is used by system programmers to escape from the dispatch program system. It is not available from dispatch consoles.
ADD	This function is used to obtain the normal "back-side" of a ticket (Wanted/Missing Persons and Lost/Stolen Vehicle). The user must have a standard ticket displayed. When this function is used, he will be presented with a fixed formatted field to be filled out describing a person and a vehicle. The user can add as many of these sections as required to a ticket by performing this same function. Once this part has been added to a ticket, it can be displayed at any time by first recalling the ticket then pressing the TOP Key followed by the END key. After the first ADD on has been retrieved the user can page between ADD on's by continually pressing the END Key. Pressing the "END" key after the last ADD on has been displayed, will cause the original ticket to be displayed.
ROLL	This function is used to find out what terminals and what computer/dispatch operators are on the system. A list, containing the following information, will be presented. Terminal # [terminal number] Operator # Center * [center name: O = Oak Park, R = River Forest, F = Forest Park] ⋮ ⋮ ⋮
LIST	This function is used when the user wants to obtain pertinent information regarding tickets which have been entered into the system. When this function is requested by the operator, he will obtain, starting with the most current ticket, a list of eight tickets (format given below). He can continually page back through his tickets by pressing the END Key.

Event	Code	Incident	Location	Time	Date
00174	1090	Accident	Lake and Harlem	0815	01/15/74
00173	1089	Bomb Threat	604 W. Lake	0523	01/14/74

TO	This function is the same as the MSG0 Key, described in paragraph P.7.
ZONE	This function is used to change the time zone between Central Daylight Time (CDT) and Central Standard Time (CST).
TIME	This function can be used to obtain the time of day or to set the time of day into the computer clock if the real time clock is not used. To set the time the user presses INVOKE, types TIME followed by a terminator and then types the time followed by a terminator. If he wants to see the time of day, after the first terminator instead of typing the time he just presses a terminator and the correct time will be displayed.
1096	This function is used by an operator to log his star # into the system. This is required each time a new operator starts to use a console. After INVOKE he types 1096 followed by a terminator. The system will display STAR and the user then types in his star number followed by a terminator.
CENTER	This function is used to log a console into a particular center. The system will normally have the consoles set up with the existing centers; however, if the River Forest console was to take over all of Forest Park's functions he could set that console up as if it were Forest Park.
DROP	This function is used to delete a ticket from the backlog. If a ticket is to be removed without an officer objecting it by a 1,4, this function is used. The ticket will remain in the system the same as all objected tickets.
LEADS	This function is used to display a copy of a message from LEADS. Whenever a message is received from LEADS, a note will appear in the message area which states that a message has been received from LEADS. If the user wants a copy of this message on his display instead of looking at the printed copy, he can use this function to obtain it.

B.7. MEMO Key. This key provides the ability to send short messages to a specified operator, to a particular control center, or to all terminals. When the operator presses this key, he will be presented with a message requesting the desired destination. He may enter a number, which will direct his message to the operator using that number; he may enter one or two letters which will be interpreted as a control group name, and will direct his message to all terminals using that name; or he may omit the destination entirely, which will implicitly direct his message to all terminals connected to the system. In any case he must press TAB before typing his message, and must use RETURN to signify the end of the message.

B.8. FILE Key. This key is used to attach a complaint, incident, file, or control number to the current ticket. The format used by this function was chosen for flexibility and security rather than ease of entry, since a file number, once assigned, cannot be removed without great difficulty, and can never be reused during the current year.

When the operator presses this key, he is presented with a short message requesting confirmation. He may confirm with the RETURN Key, in which case a file number will be generated from the current sequence of the control center corresponding to the unit assigned to the ticket. He may, however, obtain a number from a different sequence by entering a control center name before pressing RETURN.

B.9. SEND Key. This key will be used when the patrol units have mobile printers or terminals and it is desired to send a message to them. Digital transmission is the most secure method of data transmission from

the dispatcher to the units because it can not be easily monitored as can the voice radio link, and it provides the officers on patrol with a printed message. It also greatly reduces the amount of "Air Time" required to transmit a given amount of information.

B.10. CLEAR Key. When this key is pressed, the computer will completely clear the display screen.

B.11. PRINT Key. This key is used whenever a hard copy of a ticket, status or other table data on the display is required. Also when a copy of a report is required this key is used to request the system to print the report. Table 6 gives the different Print messages and the format for each.

Table 6. Print Output Formats

The following functions are available for obtaining printed output:

1) "TICKETS" Start #____ End #____
2) "LIST" End #____
3) "RECAP"
4) "SHIFT"
5) "ACTIVITY"

TICKETS -- used to obtain a printed copy of any number of tickets, starting at a certain number and ending at a certain number

```
incident:  ACCIDENT                  0843 CST  11 DEC 1973  code 1050  K73-00019
location:  RIDGELAND AND MADISON     OAK PARK        , IL  post 11     OP  00154
caller  :  MR JOHNSON                victim:  SAME                      code 0
address :  637 HARBOR TERR           BARTLETT        , IL  telephone:  386-3011
unit 544   WATERSON                  assigned 0843  arrived 0844  completed 0847
from 8     assist NONE                     received by 317   dispatched by 317
notes:  PROPERTY DAMAGE ONLY
```

LIST -- used to obtain a printed copy of the one line item listing of the tickets starting with the most current and running backwards and ending at a certain number

Ticket #	Code	Incident	Location	Time	Date
00007	1050	ACCIDENT	333 S AUSTIN	0810	9 JAN 74
00006	1050	ACCIDENT	655 LAKE	0800	9 JAN 74
00005	1000	CRIME IN PROGRESS	678 I-90/HARLEM	1439	8 JAN 74
00004	1070	LOST/STOLEN PLATE	517 DESPLAINES	1434	8 JAN 74
00003	1010	FIGHT IN PROGRESS	MADISON/HARLEM	1430	8 JAN 74
00002	1092	IMPROPER PARKING	7378 MADISON REAR	1302	8 JAN 74
00001	1092	IMPROPER PARKING	7328 MADISON	0822	8 JAN 74

RECAP -- used to obtain a hard copy printout of the daily recap report. Information will be extracted from all tickets which have occurred during that day and printed in this report.

SHIFT -- used to obtain a hard copy printout of a shift summary report. Again, information will be extracted from all tickets which have occurred during a given shift and printed in this report.

ACTIVITY -- used to obtain a hard copy printout of a unit's activity report. Information will be extracted from tickets in regards to a particular unit and printed in this report.

Operating Procedures

The following sections will be an explanation of how to do some specific operations, using the screens and keyboards of the AID System. For more details in regards to the actions of each individual key on the keyboard refer to sections A.1 through A.11 and B.1 through B.12.

The symbology which is used in the exact sequence of actions are as follows:

< > -- Press the function key named inside the brackets

( ) -- The information within needs to be typed -- if there are no " " inside the ( ) then that exact value is typed, if there are " " inside the ( ) the type of information to be typed is given

T -- Press a terminator -- either TAB or RETURN

[ ] -- Response from System before proceeding

{ } -- Is an optional section which can be followed to obtain the desired results or it may be bypassed.

Capital letters indicate the name on a particular key to be pressed or the information being displayed by the System.

C.1. Logging in as a Dispatcher -- Whenever a complaint/dispatcher comes on duty, goes off duty or changes to a different display console, he must log on or off. The sequence of actions to perform this operation are:

< INVOKE > [:] (1086) T [STAR:] ("Your star # or zero") T

Note: If you are logging on use your #, if you are logging off use the # zero.

Explanation:

Press INVOKE Key -- : will appear on the screen

Type 1086
Press a terminator -- STAR: will appear on the screen

Type in "Star #"
Press a terminator

C.2. Bringing Units On or Off Duty -- At the beginning, ending of a shift or whenever a unit starts on duty the dispatcher should log the unit into the system via the following sequence:

ON DUTY

< UNIT > [UNIT:] ("give Unit #") T [CODE:] (1041) T [AREA:] ("give area of assignment") T [NAME:] ("give officers names") T

Explanation:

Press UNIT Key -- UNIT: will appear on the screen

Type in "Unit #"
Press a terminator -- CODE: will appear on the screen

Type 1041
Press a terminator -- AREA: will appear on the screen

Type in "Area or Nothing"
Press a terminator -- NAME: will appear on the screen

Type in "Officer Name or Names"
Press a terminator -- a line code similar to Unit Status will appear on the screen showing results of actions

OFF DUTY

< UNIT > [UNIT:] ("give unit #") T [CODE:] (1042) T

Explanation:

Press UNIT Key -- UNIT: will appear on the screen

Type in "Unit #"
Press a terminator -- a line code will appear on the screen showing results of action

C.3. Creating a New Ticket -- Whenever a call is received for assistance by the police department a radio ticket should be created. The sequence of operations to get a new blank ticket to be filled out are listed:

< EVENT > [CODE:] ("Type in Incident Code from Table 2 or leave blank")
T [LOCATION:] ("Type in street address or leave blank") T

Explanation:

Press EVENT Key -- CODE: will appear on the screen

Type in "Incident Code or nothing"
Press a terminator -- LOCATION: will appear on the screen

Type in "Street address or nothing"
Press a terminator -- The blank ticket will appear on the screen with date and time filled in, also if code was given the Incident will be filled in, also if street address was given that field will be filled in and if Post Look-up works the Post # will be filled in.

C.4. Filling in a Ticket -- After the ticket has been created the essential information fields should be completed. As soon as the new ticket appears on the screen, the cursor will be located in the caller field if the incident code and location were given during Creation of a Ticket, C.3, because the first two lines of the ticket will be completed. As each field is completed, you can jump to the next field by pressing TAB. Any of the other Editing Keys (A.1 through A.11) may be used while filling in these fields to obtain the desired results of each key. Also, as soon as the incident code and location information has been completed, a unit may be dispatched to handle the situation while the additional information is being obtained.

C.5. Dispatching a Unit -- Whenever a dispatcher wants to select and assign a unit to a ticket, he must first have a ticket on his screen and then perform the following:

< UNIT > [UNIT:] { < STATUS > ["A list of units along with their status as shown in Table 4"] } ("Unit #") T [COLE:] (1076 or 1017) T

< STATUS > : If the dispatcher does not know what unit to dispatch for this particular request

("Unit #") : This may be filled in by computer if the option of computer unit recommendation is used.

Explanation:

Press UNIT Key -- UNIT: will appear on the screen

Press STATUS Key if you want to see UNIT STATUS -- A list of units with status and other information as shown in Table 4 will appear on the screen

Type in "Unit #" unless the unit recommendation is OK and working
Press a terminator -- COLE: will appear on the screen

Type 1076 or 1017
Press a terminator -- A one line code will appear showing change of unit status and the Unit Assignment field and Assign Time will be filled in on the ticket.

C.6. Check on Ticket Packlog -- The pending queue of tickets can be checked to find out if any require action as units become available for service. The dispatcher would run through this every so often to find out if there are any tickets requiring action. If an incident of high priority came in a message would appear on the dispatcher's console screen immediately:

< TICKET > < STATUS > ["A list of ticket status as shown in Table 4"]
{ [MORE?] and you want more < END > }

Explanation:

Press TICKET
Press STATUS -- A list of ticket status as shown in Table 4 will appear on the screen starting with the most current ticket. If the message MORE? appears there are more tickets which can be obtained by pressing END Key. If a ticket has not had a unit dispatched, the priority # will flash.

C.7. Locate an Old Ticket -- Any time the user wants to page through old tickets (tickets which have been completed) to locate a ticket which occurred previously, he will use the LIST function as follows:

< INVOKE > [:] (LIST) T ["A list of ticket information as shown in Table 5"] { [MORE?] and you want more < END > }

Explanation:

Press INVOKE -- : will appear on the screen

Type LIST
Press a terminator -- The information from the eight most current tickets will appear on the screen as shown in Table 5.

Press END -- The next most current eight tickets will appear on the screen and this can be continued to page back through the tickets.

C.8. Add Back Side to Ticket -- Whenever a dispatcher has to fill out a Wanted/Missing Person or Lost/Stolen Vehicle information which is generally on the back side of a ticket, he adds the required formats for this to a ticket (the ticket must be on the screen), using the following (filling the information into the fields is handled the same as filling in the fields on a ticket):

< INVOKE > [:] (ADD) T ["a blank format for Person and Vehicle"]

Explanation:

Press INVOKE -- : will appear on the screen

Type ADD
Press a terminator -- The format for a person and vehicle will appear on the screen. The Wanted/Missing is to be filled in along with data. The Lost/Stolen is to be filled in along with data if used.

Note: As many of these ADD on's as required can be added to a ticket by using the same sequence.

C.9. Recalling Backside of Ticket -- After the back side has been added to a ticket, it can be recalled in the following way (assuming first you recall the ticket):

< END > ["the first add on"] { < END > will get the next add on to that ticket if there is one, or will page back to ticket }

Explanation:

Recall Ticket -- Ticket will appear on the screen

Press END -- The first Add-on will appear on the screen

Press END -- The next Add-on will appear or the original ticket will appear. This paging can be continued by pressing END Key.

C.10. Attaching a Complaint Number -- Whenever a dispatcher wants to assign a complaint number to a radio ticket, he first has the ticket on his screen and then follows the following procedure:

< FILE > [CONFIRM: FILE SEQUENCE:] { ("Center Name") } T

Explanation:

Press FILE Key -- CONFIRM: FILE SEQUENCE: will appear on the screen

Press a terminator -- File number will appear on the screen
or
Give a Center Name
before Terminator

C.11. Completing a Ticket -- A ticket will go from the pending file to the completed file automatically whenever the unit assigned to that ticket goes 1024. However, if a ticket needs to be moved from pending to complete without a unit being assigned and going 1024, it can be accomplished by first having the ticket on your screen and:

< INVOKE > [:] (DROP) T

Explanation:

Press INVOKE Key -- : will appear on the screen

Type DROP
Press a terminator --

C.12. Modify a Unit Status -- Whenever a unit's status requires changing the following procedure is followed:

< UNIT > [UNIT:] ("Type Unit #") T [CODE:] ("Type the desired code # from Table 3") T

Explanation:

Press UNIT Key -- UNIT: will appear on the screen

Type "Unit #"
Press a terminator -- CODE: will appear on the screen

Type "Code # from table 3"
Press a terminator -- a line code will appear on the screen showing results.

C.13. Send a Memo to Another Terminal -- A message of up to 60 characters may be sent to a particular operator, a center, or to all terminals.

< MEMO > [TO:] { ("Type Operator #") / ("Type Center Name") / ("leave blank") } T [:] ("Type message of up to 60 characters") T

Explanation:

Press MEMO Key -- TO: will appear on the screen

Give Operator # if to a particular operator
Give Center Name if to a particular Center
Leave blank if to all terminals
Press a terminator -- : will appear on the screen

Type a message
Press a terminator -- message will be transmitted

C.14. Print a Report -- Whenever a printed report is to be generated onto one of the printers the following procedure is followed:

< PRINT > [PRINT:] ("Center Name and File Name from Table 6") T

Explanation:

Press PRINT Key -- PRINT: will appear on the screen

Type "Center Name and File Name from Table 6"
Press a terminator

C.15. Send 1027 to LEADS -- Whenever a drivers license check is to be made at LEADS, you follow the following procedure:

< UNIT > [UNIT:] ("Unit #") T [CODE:] (1027) T
[LICENSE:] ("Give #") T [STATE:] ("Give State") T
[EXPIRES:] ("Give Date") T [BORN:] ("Give Date") T
[SOCIAL SECURITY:] ("Give Number") T

Note: Any field that is not required by LEADS may be left blank and at any place through the sequence that sufficient information is available the string can be terminated and sent to LEADS by using the END Key.

Explanation:

Press UNIT Key -- UNIT: will appear on the screen

Type "Unit #"
Press a terminator -- CODE: will appear on the screen

Type 1027
Press a terminator -- LICENSE: will appear on the screen

Type "Drivers License #"
Press a terminator -- STATE: will appear on the screen

Type "State Code"
Press a terminator -- EXPIRES: will appear on the screen

Type "Date of expiration"
Press a terminator -- BORN: will appear on the screen

Type "The date of birth"
Press a terminator -- SOCIAL SECURITY: will appear on the screen

Type "The social security #"
Press a terminator -- The message will be formatted and sent to LEADS.

Refer to the Note above for details in regards to the different fields.

C.16. Send 1028 to LEADS -- Whenever a vehicle registration check is to be made with LEADS, you follow the following procedure:

< UNIT > [UNIT:] ("Unit #") T [CODE:] (1028) T
[LICENSE:] ("Give #") T [STATE:] ("Give State") T
[YEAR:] ("Give Year") T [TYPE:] ("Give Type") T
[VIN:] ("Give VIN #") T

Note: Any field that is not required by LEADS may be left blank and at any place through the sequence that sufficient information is available the string can be terminated and sent to LEADS by using the END Key.

Explanation:

Press UNIT Key -- UNIT: will appear on the screen

Type "Unit #"
Press a terminator -- CODE: will appear on the screen

Type 1028
Press a terminator -- LICENSE: will appear on the screen

Type "Vehicle License #"
Press a terminator -- STATE: will appear on the screen

Type "State code that vehicle is licensed"
Press a terminator -- YEAR: will appear on the screen

Type "Year of registration"
Press a terminator -- TYPE: will appear on the screen

Type "Type of vehicle license"
Press a terminator -- VIN: will appear on the screen

Type "VIN #"
Press a terminator -- The message will be formatted and sent to LEADS.

Refer to Note above for details in regards to the different fields.

C.17. Send 1029 to LEADS -- Whenever a check on a person is to be made at LEADS, you follow the following procedure:

< UNIT > [UNIT:] ("Unit #") T [CODE:] (1029) T [NAME:]
("give name of person") T [SEX:] ("give sex") T
[RACE:] ("give race") T [BORN:] ("give date of birth")
T [SOCIAL SECURITY:] ("give social security #") T

Note: Any field that is not required by LEADS may be left blank and at any place through the sequence that sufficient information is available the string can be terminated and sent to LEADS by using the END Key.

Explanation:

Press UNIT Key -- UNIT: will appear on the screen

Type "Unit #"
Press a terminator -- CODE: will appear on the screen

Type 1029
Press a terminator -- NAME: will appear on the screen

Type "person's name"
Press a terminator -- SEX: will appear on the screen

Type "sex of person"
Press a terminator -- RACE: will appear on the screen

Type "person's race"
Press a terminator -- BORN: will appear on the screen

Type "date of birth"
Press a terminator -- SOCIAL SECURITY: will appear on the screen

Type "person's social security #"
Press a terminator -- The message will be formatted and sent to LEADS.

Refer to Note above for details in regards to the different fields.

A continuous log will be printed out on the console printer at the computer site. This information is a running summary of all activities in time sequence for the complete AID System. This information is available so that everything could be recoverable in case of an emergency failure within the computer.

The format is given below along with the number of characters for each field:

Time	Unit	Code	Event	Text	Post	Dept.	Operator	Date	Terminal
8	4	5	5	24	4	2	4	8	2

The Text field will contain different information depending upon what transaction has just taken place:

Event -- Text = Location, Unit = Blank, Code = Incident Code

Unit Codes --

1041, 1042 and 1086 -- Text = Names of officers

1020 -- Text = Location

1008, 1019, 1022 and 1024 -- Text = Area of assignment

1023 -- Text = Location of incident

1028 -- Text = Basic text sent to LEADS up to 24 characters

1029 -- Text = Basic text sent to LEADS up to 24 characters

1027 -- Text = Basic text sent to LEADS up to 24 characters

1044 -- Text = Location of unit on break

All other 10 codes for units, the Text field is blank.

Table 7 illustrates a sample of the continuous log which will be printed on the console unit.

03:01:32		10-96	02109	7510 w. oak		RE		15/ 2/74	14
03:03:55		10-32	02113	north & thatcher		RE		15/ 2/74	14
03:05:44		10-01	02111	hil		RE		15/ 2/74	14
03:11:42			02112	wiebolds parking lot		RE		15/ 2/74	14
03:15:26	552	10-03	00145		11	OP	53	15/ 2/74	10
03:15:33	552	10-42		PENTHER		OP	53	15/ 2/74	10
03:15:43	561	10-23	02126	65b LALE	8	OP	53	15/ 2/74	10
03:16:20	561	10-24	00106		8	OP	53	15/ 2/74	10
03:16:44	561	10-42		SGT POTTER		OP	53	15/ 2/74	10
03:17:09	566	10-24	00107		8	OP	53	15/ 2/74	10
03:17:24	566	10-43		GUTTMAN WARD		OP	53	15/ 2/74	10
03:17:57	563	10-41		S[illegible] ERY		OP	53	15/ 2/74	10
03:18:44	546	10-41		TEGAN RUTH		OP	53	15/ 2/74	10
03:19:12	552	10-41		TUMINELLO OLSZEWSKI		OP	53	15/ 2/74	10
03:19:55	566	10-41		SCIARRA MC CLOSKEY		OP	53	15/ 2/74	10
03:20:17	569	10-41		HAROLD YULES		OP	53	15/ 2/74	10
03:20:42	570	10-41		SGT NELSON		OP	53	15/ 2/74	10
03:20:55	571	10-41		LT [illegible]RGE		OP	53	15/ 2/74	10
03:22:16	558	10-41		FIEDLER SADER		OP	53	15/ 2/74	10
03:36:18		10-96	02113	7910 w. central		RE		15/ 2/74	14
03:36:44		10-10	02114	RIDGELAND COMMONS		OP	44	15/ 2/74	10
03:37:54	546	10-10	00114	RIDGELAND COMMONS		OP	44	15/ 2/74	10
03:38:07	552	10-10	02114	RIDGELAND COMMONS		OP	44	15/ 2/74	10
03:39:14	552	10-23	02114	RIDGELAND COMMONS		OP	44	15/ 2/74	10
03:16:19		10-41	02115	ray iverson shell		RE		15/ 2/74	14
03:21:14		10-93	02116	keystone & thatcher		RE		15/ 2/74	14
03:27:05		10-92	02117	w		RE		15/ 2/74	14
03:37:26		10-32	02118	house of pies		RE		15/ 2/74	14
03:40:03		10-70	02119	328 S AUSTIN	13	OP	44	15/ 2/74	10
03:40:25		10-94	00124	r		RE		15/ 2/74	14
03:42:49		10-76	02121	station		RE		15/ 2/74	14
03:42:51	566	10-70	02119	328 S AUSTIN	13	OP	44	15/ 2/74	10
03:43:53	552	10-10	02114	RIDGELAND COMMONS		OP	44	15/ 2/74	10
03:43:18		10-44	02122	carriage grill		RE		15/ 2/74	14
03:44:27	566	10-23	02119	328 S AUSTIN	13	OP	44	15/ 2/74	10
03:44:46	552	10-23	02114	RIDGELAND COMMONS		OP	44	15/ 2/74	10
03:47:55	552	10-24	00114			OP	44	15/ 2/74	10
03:51:12	566	10-23	02119		13	OP	44	15/ 2/74	10
03:54:38		10-42	00123	m		RE		15/ 2/74	14
03:58:58		10-96	02124	communications room		RE		15/ 2/74	14
03:03:02			00125	498 park ave.		RE		15/ 2/74	14
03:59:39		10-11	02126	n/b park from madison		RE		15/ 2/74	14
04:02:26			00127	0		RE		15/ 2/74	14
04:03:41		10-54	02128	1037		RE		15/ 2/74	14
04:06:13		10-32	02129	park & lake st.		RE		15/ 2/74	14
04:06:48		10-24	00130	PARK & LAKE ST.		RE		15/ 2/74	14
04:27:05	552	10-42		TUMINELLO OLSZEWSKI		OP	44	15/ 2/74	10
04:27:24	552	10-41		TUMINELLO-OLSZEWSKI		OP	44	15/ 2/74	10
04:27:34	566	10-42		SCIARRA MC CLOSKEY		OP	44	15/ 2/74	10
04:27:55	566	10-41		SCIARRA-MC CLOSKEY		OP	44	15/ 2/74	10

Table 7. Log Print Out

Conclusion

The AID System provides a practical, efficient and economical method of collecting data in machine sensible form as it is generated and in a manner which is in accordance with standard dispatching procedures. This data, if used properly, can supply the agency with many, if not all, of the necessary ingredients for:

1. Field personnel activity reports
2. Performance evaluation reports
3. Document control
4. Leads required during criminal investigations
5. Improved dispatcher control over mobile units
6. Radio traffic analysis
7. Intelligence purposes
8. Improved contact judgment by officers
9. Towed auto control
10. In-custody reports
11. Enforcement, accident and crime analysis reports
12. Resource allocation forecasts
13. Name, vehicle or driver's license inquiries
14. Summary reports (shift, officers, daily, etc.)
15. Statistical summaries and possibilities of crime prediction

Additionally, the AID System is designed to assist the dispatcher performing his functions more efficiently by:

1. Maintaining a dynamic mobile unit status report
2. Recommending mobile unit assignments
3. Automatically formatting, transmitting and displaying inquiries
4. Offering operating control of the system to the dispatcher in the form of powerful, appropriately labeled function keys.
5. Assisting in the formulation, transmission and receipt of directed messages.
6. Serving as a single integrated dispatch tool.
7. Maintaining and processing a dynamic incident backlog.
8. Providing the ability of stepping from field-to-field on the radio ticket.
9. Providing adaptable display formats which can be tailored to the needs of the department.
10. Allowing the dispatcher to use the same code structures for incidents, unit numbers and beat identifiers presently in use.
11. Being designed to fit in to normal operating procedures.

In relation to the real-time police information system being used, the AID System is:

1. Transparent to both the hardware and software of the host system. That is, it accurately emulates any standard type of terminal now in use on these type systems so that the host system does not have to recognize that any terminal change has been made.

2. The replacement of the terminals now used for these functions with a high speed quiet printing device.

3. Capable of conforming with any inquiry code structure or language now used on the host system.

4. Capable of transmitting data to the host system over high speed lines if it is desired to make the necessary changes in the host system.